

Remarks

In the instant application, claims 1-10 and 12 are pending. Reconsideration of the pending claims in view of the following remarks is respectfully requested.

Rejection under 35 U.S.C. § 103

Claims 1-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rauchschwalbe et al. (US Pat. Pub. No. 2001/0034453 (hereinafter referred to as " '453") in view of Merz et al. (*Journal for Praktische Chemie*, 1996, 672-674) (hereinafter referred to as "Merz").

The '453 publication, as best understood by the Applicants, discloses a decarboxylating process of 3,4 dialkoxythiophene-2,5-dicarboxylic acid in a solvent. The '453 publication does not disclose the process recited in claim 1. The process of claim 1 features thermal decarboxylation of 3,4 dialkoxythiophene-2,5-dicarboxylic acid as a solid in the presence of fluidized bed bodies, in the absence of solvent and discharging the product from the reaction zone in gaseous form. In contrast, the '453 publication teaches a process being carried out in the presence of solvent and that such solvent serves to dissipate and distribute heat supplied via the reactor wall to avoid overheating. *See the '453 publication at paragraph [0026].* There is no mention or suggestion in the '453 publication for the elimination of such solvents and/or diluents. Furthermore, the '453 publication does not disclose the process of claim 1 where the reaction product is discharged from the reaction zone in gaseous form. The '453 publication discloses that the decarboxylation is carried out at elevated temperatures and subsequently the product is distilled off from the solvent. *See '453 publication at paragraph [0022].* Thus, in the '453 publication process, the reaction product is not removed from the reaction zone in the gaseous form but rather is formed in the solvent and must subsequently be separated from such solvent. *See also Examples 1-5 in the '453 publication illustrating a separate distillation step subsequent to formation of the product in the solvent.* As such, the '453 publication does not feature all the claim elements of claim 1.

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Merz does not add to the '453 publication to cure the deficiencies in order to teach every feature of instant claim 1. Merz discloses the decarboxylation of 2,5-dicarboxy-3,4-dimethoxythiophene by exposing the compound to high heat. However, Merz does not teach that the reaction product is removed from the reaction zone in the gaseous form, as recited in claim 1. Merz teaches heating the reactant to a temperature of >250°C where a yellow-brown oil is obtained. This oil is distilled to give a colorless oil that solidifies to crystals of desired product. *See Merz, first full paragraph, second column, page 673.* There is no mention in Merz of discharging the decarboxylation product formed from the reaction zone in gaseous form, as featured in claim 1. Therefore, Merz does not add to the '453 publication to teach all the features of instant claim 1.

The '453 reference and Merz cannot be combined to maintain an obviousness rejection because the references teach away from such combination. See MPEP 2145. The '453 publication states that lower yield is achieved (only 65%) in thermal decarboxylations in the absence of diluents and metal catalyst. See '453 publication paragraph [005]. Specifically, the '453 publication points to the Merz reference as disclosing low yield decarboxylation. As such, the '453 publication conveys to one skilled in the art that the absence of solvents is not desirable and produces lower yields. The yields disclosed in the Examples of the '453 publication are over 80%. Thus, the references teach away from the combination the Office needs to maintain a *prima facie* case of obviousness (i.e., decarboxylation of 3,4-dialkoxythiophene-2,5-dicarboxylic acid in the absence of solvent, among other features).

The Office Action argues that the concerns of the '453 publication had of local overheating are unfounded as the reaction has already been accomplished by Merz with no solvents and much higher temperatures. However, the '453 publication showed a yield of 86.7% of 3,4-dimethoxythiophene in the decarboxylation of 3,4-dimethoxythiophenedicarboxylic acid as compared to only a 65% yield set forth in Merz. Thus, there is a concern that the absence of solvents and higher heat results in lower yields. This concern is set forth in the '453 publication, paragraph [005] where it directly points to the Merz reference.

Therefore, the '453 publication alone or in combination with Merz does not feature all the claim elements of instant claim 1 to render the claim obvious. Further, the references teach away from their combination and cannot be used to maintain a rejection of obviousness. As such, claim 1 is not obvious in view of the cited art.

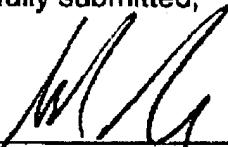
In view of the foregoing, it is respectfully submitted that the instant process as set forth in claim 1 is not obvious over the cited art. Withdrawal of the rejection is respectfully requested.

Claims 2-10 and 12 either directly or indirectly depend from claim 1 and are patentable over the cited references for at least the same reasons as set forth for claim 1. Withdrawal of the rejection of these claims is respectfully requested.

The USPTO is hereby authorized to charge any fees for an extension of time or those under 37 C.F.R. 1.16 or 1.17, which may be required by this paper, and/or to credit any overpayments to Deposit Account No. 50-2527.

Respectfully submitted,

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